

CLAIMS

1. A transmitter for transmitting a signal to a subscriber station through at least two transmit antennas, the transmitter comprising:
 - means for transmitting a distinguishable pilot signal through each of the at least two transmit antennas;
 - means for receiving channel estimate information corresponding to said per-antenna pilot signals;
 - means for generating pre-correction delays and weights based on said channel estimate information; and
 - means for transmitting a data signal through the at least two transmit antennas based on said pre-correction delays and weights.
2. A method for transmitting a signal to a subscriber station through at least two transmit antennas, the method comprising:
 - transmitting a distinguishable pilot signal through each of the at least two transmit antennas;
 - receiving channel estimate information corresponding to said per-antenna pilot signals;
 - generating pre-correction delays and weights based on said channel estimate information; and
 - transmitting a data signal through the at least two transmit antennas based on said pre-correction delays and weights.
3. A computer readable media embodying a method for transmitting a signal to a subscriber station through at least two transmit antennas, the method comprising:
 - transmitting a distinguishable pilot signal through each of the at least two transmit antennas;
 - receiving channel estimate information corresponding to said per-antenna pilot signals;
 - generating pre-correction delays and weights based on said channel estimate information; and

transmitting a data signal through the at least two transmit antennas based on said pre-correction delays and weights.

4. A base station apparatus comprising:

at least two transmit antennas;

a mixer corresponding to each of said at least two transmit antennas, for applying a per-antenna cover code to a pilot signal to be transmitted through each of said at least two transmit antennas;

receiver for receiving channel estimate information corresponding to said per-antenna pilot signals for at least two transmit paths per transmit antenna;

pre-correction processor for generating pre-correction delays and weights based on said channel estimate information; and

a transmitter corresponding to each of said at least two transmit antennas, for transmitting a data signal through said at least two transmit antennas, wherein the data signal transmitted through each of said at least two transmit antennas is adjusted based on said pre-correction delays and weights.

5. A receiver for receiving a data signal transmitted from at least two transmit antennas and through at least two transmit paths, the receiver comprising:

means for measuring channel information corresponding to each combination of one of the at least two transmit antennas and one the at least two transmit paths; and

means for transmitting said channel information.

6. A method for receiving a data signal transmitted from at least two transmit antennas and through at least two transmit paths, the method comprising:

measuring channel information corresponding to each combination of one of the at least two transmit antennas and one the at least two transmit paths; and

transmitting said channel information.

7. A computer readable media embodying a method for receiving a data signal transmitted from at least two transmit antennas and through at least two transmit paths, the method comprising:

measuring channel information corresponding to each combination of one of the at least two transmit antennas and one the at least two transmit paths; and

transmitting said channel information.

8. A remote station apparatus for receiving signals transmitted from at least two transmit antennas and through at least two transmit paths, the apparatus comprising:

at least four channel estimators, wherein each channel estimator measures channel information corresponding to a signal received through a different combination of one of the at least two transmit antennas and one of the at least two transmit paths; and

channel estimate processor for generating channel estimate information based on said measured channel information.